

Philosophical Approaches to Undernutrition

In this chapter we explore philosophical approaches to reducing worldwide hunger. What motivates governments, societies, individuals, or groups of individuals to concern themselves with the issue of undernutrition? How does the motivation influence the policy decisions?

From the Standpoint of a Moral Philosopher

Charity or Concern for the Poor and Hungry?

Our first chapter opened with a reference to starving Ethiopian babies—babies with bloated bellies, spindly arms and legs, and bodies too weak to sit up. The device is a standard technique for grabbing the attention of people attuned to Western culture and making them stop to think about the world food problem.

Those who live in the Western world are exposed to repeated appeals to conscience, asking them to join the battle to end hunger. In 1980, the Presidential Commission on World Hunger urged that the United States "make the elimination of hunger the primary focus of its relations with the developing world." Commenting on this in a paper written for a religious audience, McLaughlin stated that "the moral and humanitarian reasons for such a policy seem self-evident" (1984:3).

A common argument in favor of studying and solving the world hunger problem is the moral dictate that each of us should help individuals who are less fortunate than ourselves. The pope's statement to the World Food Summit, for example, contains the following admonition:

In the analyses which have accompanied the preparatory work for your meeting, it is recalled that more than 800 million people still suffer from malnutrition and that it is often difficult to find immediate solutions for improving these tragic situations. Nevertheless, we must seek them together so that we will no longer have, side by side, the starving and the wealthy, the very poor and the very rich, those who lack the necessary means and others who lavishly

waste them. Such contrasts between poverty and wealth are intolerable for humanity.

It is the task of nations, their leaders, their economic powers and all people of goodwill to seek every opportunity for a more equitable sharing of resources, which are not lacking, and of consumer goods; by this sharing, all will express their sense of brotherhood. It requires "firm and persevering determination to commit oneself to the common good; that is to say, to the good of all and of each individual, because we are all really responsible for all" (*Sollicitudo rei socialis*, no. 38). This spirit calls for a change of attitude and habits with regard to life-styles and the relationship between resources and goods, as well as for an increased awareness of one's neighbour and his legitimate needs. (Pope John Paul II 1996)

Philosopher Peter Singer approaches the issue from a distinctly nonreligious point of view. He concludes: "I begin with the assumption that suffering from lack of food, shelter, and medical care are bad. . . . My next point is this: if it is within our power to prevent something bad from happening, without thereby sacrificing anything of comparable moral importance, we ought, morally, to do it" (1972).

Garrett Hardin (1974) reached a completely opposite conclusion. To Hardin, the most ethical action was staunchly to *refuse* to help the poorest of the poor. His reasoning was this: our planet is like a lifeboat with a limited capacity; the altruistic impulse to save people will overcrowd that lifeboat and thereby doom everyone, even those who could have been saved. Of course, the underlying logic here requires that the lifeboat actually be full, and the experience since 1974, when Hardin put forth his analogy, contradicts that assumption—the world's population has increased more than 60 percent and the number of undernourished people has declined.

The arguments presented in the past few paragraphs describe the issue of helping the world's undernourished as a matter of religious conviction or personal ethics. The motivation to help comes from within the individual. I may believe that I "owe" compassion to the hungry, but that debt is a product of my beliefs, something generated from within myself. In that regard, it is quite different from the debt I owe to the government as taxes.

Food as a Right

This distinction (between being motivated by personal ethics and being motivated by an obligation to society) is important as we consider a second type of moral argument about why we should be interested in the problem of world hunger: the issue of "food as a right." Some eighty-five countries have endorsed the International Covenant on Economic, Social, and Cultural Rights (adopted by the United Nations General Assembly in 1966), which defined and formalized the right to food as a basic human right. The right to food was

widely discussed in preparation for and during the World Food Summit of 1996 (Pinstrup-Andersen, Nygaard, and Ratta 1995; Alston 1997).

If food is a right, then hunger is a violation of that right, and we have a second ethical motivation to be concerned about hunger—the moral requirement that we seek justice and oppose violations of rights. There is a difference between the "charity" motivation (we have an ethical obligation to help the hungry) and the "justice" motivation (food is a right). That difference is illustrated by the following:

- If you accept the view that there is a fundamental right to food, then you are motivated to address the hunger problem even if you do not believe that you have a moral duty to help the poor and hungry. Your motivation here is simply to ensure the protection of that fundamental right.
- If you believe that you have a moral duty to help the poor, then you are motivated to address the hunger problem even if you do not believe that there is a fundamental right to food. Your motivation here is your duty to be charitable.

To illustrate this difference, consider the right to religious freedom. A Christian who embraces the concept of this right could simultaneously believe (1) that people have a right to worship as Jews or Muslims, and (2) that nobody ought to exercise that right, because those religions deny the divinity of Christ. Or consider the right to "free speech." A person might simultaneously believe (1) that people have the right to read pornographic books, and (2) that nobody ought to exercise that right.

The assertion that people have a right to food is in this sense stronger than the assertion that people have a moral responsibility to help the poor and hungry. The latter is an assertion of a principle that will guide the speaker's behavior, and a plea to others to adopt the same principle. The former is an assertion that other people have a responsibility to help the poor and hungry even if those people do not choose to adopt the moral principle that would motivate this behavior. In other words, a coercive element is embedded in the "rights" assertion that is absent from the "moral principle" assertion.

The assertion that food is a right (or that people have a fundamental right to food and other necessities or "basic needs") is highly controversial. Let us consider some of the sources of controversy by means of analogies.

Consider a right that we accept as fundamental in the United States: the "right to remain silent" or the right not to incriminate oneself. We accept the existence of this right even when we disapprove of its exercise! For example, if a kidnapper refuses to tell where he has hidden his victim, we may doubly abhor the kidnapper for his silence as well as his violence. But we do not argue that laws should permit police to torture suspects. The widespread acceptance

of the right to remain silent sets this issue beyond the reach of political debate. It simplifies decisionmaking; we don't need to consider the pros and cons of any action, we need only to answer the question: "Does the action violate the right?"

This may explain why activists have pushed to have the right to food accepted as a fundamental right. They may hope to eliminate debate over the costs and benefits of various programs; the existence of the right trumps all other arguments. The FoodFirst Information and Action Network (FIAN 1997), in its fact sheet "Twelve Misconceptions About the Right to Food," states that "governance is negotiable; rights are not." A panel of constitutional experts supporting the concept of economic rights stated: "Fundamental needs such as social welfare rights should not be at the mercy of changing governmental policies and programmes, but must be defined as entitlements." The intention of advancing the "right to food" concept is to force acceptance of more active government programs to combat world hunger without having to justify those programs economically.

The strongest objection to the concept of food as a right is that unlike traditional civil rights, which require government *not to act* in certain ways, economic rights appear to require the state *to act* in certain ways. Traditional civil or political rights do not require government to act. Consider the right to religious freedom, or the right to worship as one chooses. This right imposes on the state the restriction that it cannot pass laws or take actions that interfere with an individual's right to worship. Suppose you want to attend a Zoroastrian temple for weekly worship; but suppose the nearest such temple is in Chicago, and suppose further that you cannot afford to travel to and from Chicago each week. Does the government have any obligation to buy a weekly plane ticket for you? No, at least not as the right to religious freedom is interpreted in the United States.

Economic rights do not just require the government to avoid actions that would interfere with any individual's ability to obtain food; they additionally require the government to take actions to increase the ability of hungry people to obtain food. Legal scholars refer to this as the difference between "positive" and "negative" rights.

The most extreme objections to the concept of economic rights assert that these rights are immoral themselves because they require government to limit the freedom of some members of the society. It is hard to conceive of any effective assertion of economic rights that does not require extensive redistribution of income from rich to poor. If we accept the argument that governmental limits on freedom are immoral, then any taxation is immoral, since the taxation itself is coercive, restricting individual liberties. But isn't taxation required to guarantee other civil rights? To ensure the right to be free of "cruel and unusual punishment," the government must use tax revenue to build new prisons (or free some prisoners). As long as it is costly to guarantee individuals their civil

rights, some element of government coercion through the taxation system is necessary (see Holmes and Sunstein 1999).

The word *rights* in the traditional sense refers to entitlements that are in most applications absolute. The US government cannot censor a newspaper, or ban a religion, because those rights are absolute. Of course, it is easy to find examples of ways in which "absolute rights" are not absolute. The right of free speech does not extend to cover the right to yell "FIRE" in a crowded theater. The right of freedom of association (the right to choose your own friends) does not mean that an employer has the right to hire individuals of only one race. Absolute rights become limited only when the exercise of the right interferes with another person's exercise of his or her rights. The false yell of "FIRE" interferes with other people's right to congregate safely in a theater. Racial discrimination interferes with employees' rights to be free of discrimination. When one right conflicts with another, as in these cases, it is impossible to guarantee both rights absolutely.

On the one hand, what makes the concept of economic rights so controversial is that economic rights, because they require government expenditures, inevitably conflict with other rights. On the other hand, the assertion that food is a right gives those who favor government intervention an important argument to use against libertarians. The civil libertarian argues: "The government cannot take my money (through taxes) to buy food for a poor person, because I have a right to control my own property" (notice how the assertion of a right is used to trump other arguments about whether a policy is a good or bad idea). The hunger activist can respond: "You have a right to property, but the poor person has a right to food. This is a conflict of rights and the government has an appropriate role in settling that conflict."

Further, because economic rights are in inevitable conflict with rights to property, economic rights can never be absolute. So a right to food does not mean that as long as a single hungry person exists in the world; the United States cannot devote any governmental expenditures to defense, or student loans, or drug interdiction, or civil rights enforcement. We have competing social goals that must be pursued with limited resources.

Who decides the priorities for these competing social goals? In the United States, conflicts between rights are typically resolved in the court system, not by democratically elected representatives. This raises the additional question of whether we have a fundamental right to control the level of taxation through a political process. If we have no such right, then courts could require higher and higher taxes to ensure economic rights. If there is such a right (to a social contract on taxes), then this right must be balanced against economic and other civil rights.

If we maintain the current system of establishing priorities through a political process, we impose a severe limit on economic rights. The process of simultaneously "guaranteeing" economic rights and property rights is really

no different than the process of setting policy goals and balancing competing interests.

From the Standpoint of an Economist

The preceding section started as a discussion of moral imperatives, moved on to the notion that the assertion of a right makes economic policy analysis unnecessary, and ended by raising the question: How should we allocate scarce resources to accomplish competing objectives? This question covers familiar ground for economists. Whether the trade-offs are made by courts, legislatures, or administrators, the economic rule for policymaking is to *maximize total benefits minus total costs* (see Posner 1986). Much of the remainder of the book will look at policy from the standpoint of an economist; before proceeding, we lay out some of the basic doctrines of economic policy analysis, and critiques of those doctrines.

Perhaps the questions they ask say more about economists than the way they answer those questions. The two questions that identify the asker as an economist are: (1) What is the appropriate ("optimal") policy for the society as a whole? (2) How can government best manipulate human greed to achieve its policy objectives?

What Is the Best Policy?

A political scientist wants to know: What do different people or different groups care about? Then: How will those differences in those objectives be resolved? What political processes will be involved in resolving those conflicts? What are the levers of power, and who controls those levers?

Economists start at the same place: What do different people want? And in one sense, economics is inherently about resolving conflict; after all, the buyer wants to pay a low price and the seller wants to receive a high price. But from the economists' perspective, there is some ideal way of balancing the conflicts. Any decision or choice imposes costs on some people and provides benefits to some people. The economists' ideal (at least in its simplest and purest form) says that the best choice is the one that maximizes the extent to which benefits exceed costs.

Policymaking as a rational process. Economists implicitly view policymaking as a rational, orderly process managed by benevolent, well-informed, rational, analytical policymakers. This view tends to be so ingrained in the economic literature that many professional economists may not have even considered that they have adopted this view. If pushed on the subject, few even among economists would say that this is a realistic view—that policies are actually made according to this idealized process. Nor do economists really propound

this as the way policy should be made; certainly it would be nice (in the minds of economists) if policy were made like this, and the policy outcomes are likely to be improved if made this way, but no one can conceive of a practical way of implementing such a process, except perhaps through the dictatorship of an enlightened, well-trained economist, and no one is striving to have such a process implemented.

Economists do their analytical work in the hopes of tweaking the consciences of the actual policymakers, saying in effect, "Of course you can do whatever you want, but a benevolent, well-informed, rational, analytical policymaker would do the following . . ." The hope here is that actual policymakers who like to think of themselves as benevolent, well informed, and so forth, will adopt the recommended policy to avoid the shame of doing otherwise.

This idealized view of the policymaking process is that policy debates are more like scientific inquiries than like forensic debates. The scientific method presumes that truth is discovered through a series of interchanges among scientists who share the same objective—uncovering the truth. In jurisprudence, the truth is presumed to be arrived at through an adversarial contest of advocates. The prosecutor presents the very best case as to why the defendant should be found guilty, and the defense presents the very best case as to why the defendant should be found not guilty; the judge or jury, balancing those two cases, comes to a decision (in most cases) in which one side wins and the other side loses; the defendant is found guilty of the charge or not guilty.

An example of a real-world policy decision. Let us consider a concrete policy example (this is a fictitious example, but closely resembles a policy decision that might be made in the real world). The government has built a dam and reservoir and every year must decide how much water to release from the reservoir to provide irrigation water for farmers. If the water is left in the reservoir, it will provide a healthy habitat for fish and birds, and be a place where people can enjoy outdoor recreation (hiking, canoeing, sport fishing, and bird-watching). Of course, the policymakers can release none, some, or all of the water from the reservoir.

How does an economist look at the issue? We use this example to illustrate a number of important points:

- *Every action has costs and benefits.* There are benefits (to farmers) from releasing the water—the farmers will use the water for irrigation that will increase crop yields and therefore increase the farmers' profits. But there are costs (to fish and wildlife and people who value these) associated with releasing the water.

- *Marginal benefits decline as the number of units consumed increases; marginal costs increase as the number of units produced decreases.* As described in Chapter 7, economists make frequent use of the concepts of "marginal costs" and "marginal benefits." Benefits to farmers increase as the quantity of

water released increases—but the benefits increase at a decreasing rate. The costs to the habitat increase as the quantity of water increases—and the costs increase at an increasing rate.

• *The "ideal" decision (as defined by an economist) is one that sets marginal cost equal to marginal benefit.* Just as the boy with the berries in Chapter 7 based his decision on equalizing marginal cost and marginal benefit, so too, say economists, should policymakers. To apply this rule to the hypothetical water-allocation example above, the ideal water allocation would be to continue to release water until the point is reached where the marginal benefits (the increased value of crops attributable to the last thousand gallons released) just equal the marginal costs (the additional value of environmental amenities lost by the last thousand-gallon release).

• *Under certain circumstances, an unfettered free market allocates resources in the optimal way.* One way to reach the optimum is to sell each increment of the water to the highest bidder. If a coalition of hikers, canoeists, conservationists, and environmentalists submits the winning bid, that increment of water stays in the reservoir; if a coalition of farmers submits the winning bid, the water gets released for irrigation. This will result in the optimal allocation of water: each increment of water is allocated to the use (farming or wildlife) for which it receives the highest social support. If the water were owned by a private owner whose selfish objective was to make as much money as possible, he would accomplish that objective by selling it to the highest bidder, and the water would be allocated in a way that is socially optimal. This is an expression of Adam Smith's "invisible hand," and explains why economists do not think of free competitive markets and private enterprise as inherently bad.

But economists recognize that there can be a number of problems with markets that cause the "market solution" to be different from the social optimum. Some of those problems are discussed in the next section.

Criticisms and Extensions of the Simple Policymaking Rule

Having laid out the general tenets of how economists define an "optimal policy," we now explore some finer points, including criticisms of the simple rule laid out in the preceding section.

Objectivity and Prejudices and the Role of Economics in Policymaking

In our simple example, there is a clear, apparently objective, answer to the question "What is the best policy?" If we were to present our example of marginal

costs and benefits to twenty randomly chosen economists and ask them to identify the optimal policy, all twenty would likely come to the same conclusion.

But does this mean that economists never disagree with each other about policy? Clearly the answer to this question is a vehement "NO." Economists have prejudices or opinions about policy that influence their evaluations. An economist knows how to undertake an objective analysis, but if that analysis arrives at a conclusion that contradicts their prejudice, the economist may decide that their prejudice needs to be reexamined, or the economist may decide that there was some mistake in the analysis.

Of course, an easy way to cleave to the economist's dictum ("the optimal choice is where marginal costs equal marginal benefits") and come to a different conclusion about the optimal policy is to dispute the empirical basis of the decision. An economist with an environmentalist prejudice may say, "Release 2000 gallons?! That can't be right; it's much too high. How did my analysis lead me to this conclusion? Oh, I see. The numbers are clearly skewed in a pro-farmer way." We will examine some of the ways that numbers can be wrong in their basic development below. For now, suffice it to say that if we raise our estimate of the value of environmental amenities, then the "optimal" amount of water to release is decreased. In exactly the same way, an economist with a pro-farmer prejudice may be shocked that the analysis leads to a recommendation of such a small amount (in the economist's opinion) of water to be released, and may find "mistakes" in the underlying data—"Farmer benefits from water are grossly understated," might be this economist's claim.

On the one hand, this recognition of how economists actually analyze and debate policy undercuts their claim to scientific objectivity. However, this also illustrates a major strength of the economic approach: people on different sides of an issue (people with different prejudices) are forced to think in a careful and orderly way about what their opinions are based on; they are forced to define terms clearly; they are forced to produce and to defend empirical data supporting their position. In a policy debate among economists, sincere conviction and clever phrasing count for little.

Comparability of Costs and Benefits and the Monetary Valuation of Intangibles

You have read the preceding description of how economists think about policy. If you read it uncritically, you may not have noticed that we slipped something by you—we put the costs and benefits in monetary terms so that they could be compared to each other. This is the aspect of economic analysis that is most nettlesome to many thoughtful non-economists. Suppose in our example that, after some quantity of water has been released from the reservoir, a species of fish that lives only in that reservoir dies off and becomes extinct; how do we put a dollar value on that species? Or suppose that the food produced with the

water used for irrigation saves ten people who otherwise would have died of undernutrition; how do we put a dollar value on those lives?

For many items, economists measure costs and benefits by prices determined in a competitive market. So, in our example, the value of increased production from irrigation can be measured using the market price of the crops grown. Even this has a controversial side, as we will discuss in more detail below. But for other goods that are not traded in markets, the problem of valuation is trickier. What, for example, is the value of a species of fish that might become extinct under certain policy choices? Economists have developed ways to assign monetary values to these nontraded commodities by conducting surveys that ask, for example, "How much would you be willing to pay to protect this fish from extinction?" or "How much would we have to pay you to compensate you for the loss of this species of fish?"

The underlying assumption that everything can be valued in monetary terms is troubling to many people. For example, there are those who would say to the fish extinction survey question: "It is wrong to take an action that would deliberately lead to the extinction of a species. In one sense, the value of protecting the species is very high to me; to compensate for the loss of the species you would have to pay me an infinite amount (or some arbitrarily high number). But I am opposed to the idea that I should be required to pay money to preserve the species; therefore I am not willing to pay anything to preserve the species."

Economist Tyler Cowen recognizes this weakness in the economic approach to policymaking:

On the negative side, the economic approach considers only a limited range of values, namely those embodied in individual preferences and expressed in terms of willingness to pay. This postulate is self-evident to many economists, but it fails to command wider assent. It wishes to erect "satisfying a preference" as an independent ethical value, but is unwilling to consider any possible competing values, apart from preferences. It is hard to see why non-preference values should not be admitted to a broader decision calculus.

Typically economists retreat to their intuition that satisfying preferences is somehow "real," and that pursuing non-preference values is religious, mystical, or paternalistic. The rest of the world, however, has not found this distinction persuasive. They do not see why satisfying preferences should be a value of special and sole importance, especially when those same preferences may be ill-informed, inconsistent, malicious, or spiteful. The decisions to count all preferences, to use money as the measuring rod, and to weight all market demands equally must themselves rely on external ethical judgments. For that reason, the economist has no a priori means of dismissing non-preference values from the overall policy evaluation. (2006:9)

The issue of putting a monetary value on things is especially troubling when it comes to human life. What is a human life worth? That may seem at first a horribly crass question to ask. But government policy has to deal with that question in many different contexts (the numbers in the examples below are entirely made up for purposes of illustration):

- Requiring every car to have a seatbelt and an air bag will increase car prices by \$800 (or \$800 million over the 1 million cars sold each year), but will save 20,000 lives in auto accidents. Do the benefits from the law exceed the costs?
- Requiring all cars to drive no faster than 10 miles per hour will reduce national output by \$1 trillion, but will save 5,000 lives in auto accidents. Do the benefits from the law exceed the costs?
- Requiring all vegetables sold to be tested for pesticide residues will cost \$50 billion per year, but will save 15 lives. Do the benefits exceed the costs?

Even more difficult are cases in which lives are saved by restricting people's liberty, or by forcing them to take actions they believe are wrong—for example, forcing parents to immunize their children when the parents have religious beliefs that prohibit immunization.

Market Prices, Market Allocations of Resources, and Distribution of Income

The market works, as described above, by allocating resources among their various alternative uses. Over the past hundred years, a lot of the labor force in the United States shifted from farm work in the early 1900s to factory work by the mid-1900s; to producing services and entertainment by the end of the century. This shift in resource allocation was driven largely by market forces. As profitable opportunities developed in manufacturing, the market directed more resources into factories. As profitable opportunities developed in the health services sector, the market directed more resources into hospitals.

If we take a step back, a troubling question arises: Why did the market direct resources toward the production of a television show or a sporting event, rather than toward the production of more food in a world where millions of people are undernourished? If we think of the market as an election in which goods are produced in amounts that depend on how many votes they get, the people with more money to spend have more votes than the people with less money to spend. Theoretical economists recognize that the "social optimum" achieved by perfectly competitive markets is an optimum that can be defined for a given distribution of income and that draws no conclusions about what distribution of income is appropriate.

Externalities and the Optimum

There is one set of circumstances that economists recognize as a common reason why competitive markets may not lead to a social optimum: when a decision made in the market by a buyer and a seller has benefits that accrue to or costs that are borne by others. Because these costs and benefits go to people outside the

market transaction, they are referred to as "externalities," or "external costs" and "external benefits."

To return to our reservoir-water example, suppose that farmers bought a certain amount of water and it was released from the reservoir; homeowners along the river between the reservoir and the farmers would get external benefits from the release: they would be able to swim or boat or fish, and they would get these benefits without paying for them, but the benefits would only exist because someone else (the farmers) *did* pay for the water release. In measuring the costs and benefits of water release, the market has taken into account only the private benefits of the farmers (who participate in the market), and not the full social benefits (which would include the benefits to the river users). In a case where there are external benefits, the amount that is bid for the good is lower than its true social value, and the market price and the quantity provided are "too low" compared to what would be a social optimum."

An external cost might occur if someone who never visited the reservoir enjoyed watching birds that summered in the reservoir and then migrated many miles away to where the bird-watcher lived. Releasing water imposes a cost on this distant bird-watcher that would not be reflected in the bids for water by the reservoir users. In this case the social costs would exceed the private costs.

Economic Incentives and Human Behavior

A second insight of economics is that personal materialistic satisfaction is a strong motivation of human behavior. Of course, if you think about your own behavior, you will be able to identify a lot of other motivations: a sense of honor or a sense of duty, a desire to be liked or admired, and so forth. Some of these motivations are appealed to by advertisers to get us to buy more of their products. They try to convince us that if we buy their products, others will think we are "cool." But even marketing experts recognize that people respond to materialistic motivations, and so in order to get us to buy more of their products, they lower their prices.

In our study of the world hunger problem and policies to deal with that problem, this insight will enter in at least three ways:

1. We will see how economic incentives can be and have been used to achieve policy objectives. For example, policies that make it more expensive to have children have been successful in reducing population growth, and policies that make it more expensive to degrade the environment have been successful in reducing environmental degradation. In this context, we will see that assigning and enforcing property rights are often an integral part of creating economic incentives.

2. The production of goods also responds to economic incentives; the more that people are materially rewarded for producing a certain good, the more of that good will be produced. The implication of this is that the distribution of goods influences the quantity of goods available for distribution.

3. Production is a dynamic process, and methods of production change over time. As a commodity or resource becomes more scarce, or as increased demand for the commodity or resource results in increased price, people respond by finding ways to use the resource more efficiently, by finding ways to produce the commodity or make the resource available more cheaply, and by finding alternatives to the commodity or resource.

On the second point, a mistake that non-economists frequently make in discussing policy options is to conceive of the policy problem as one of how to distribute a fixed stock of goods. For example, we noted that there is sufficient food available for human consumption in the world such that every person could consume his or her caloric requirements. In responding to this assertion, many people think: "So the problem is just one of distribution. If people in developed countries just consumed less, the extra food could be used in the developing world, and the undernutrition problem would be solved." The first sentence is true: the problem can be thought of as a distribution problem. But the second sentence is false, or at least grossly misleading.

The amount of food that is available for human consumption depends on the amount of food that farmers worldwide produce. And the amount that farmers produce depends on the economic incentive—the price farmers receive for their output. If people in rich countries were to make a concerted effort to consume less food—if they were to spend less money on food and more on items other than food—then the price that farmers receive would drop and they would produce less food; in the world economy as a whole, resources would move from production of food into production of nonfood items. There would be a positive effect on the undernutrition problem in poor countries, but the effect would be much smaller than imagined by those who think, "If I consume 1,500 fewer calories each day, then that food can be given to people in poor countries, and three people there can each have an extra 500 calories per day." In order for this kind of redistribution to work, the rich person would have to continue to buy the food (or at least to pay for its production in some way) and then donate the 1,500 calories per day to the poor people.

The energy crisis of the 1970s provides excellent examples of the human responses to economic incentives. During that decade, oil prices shot up dramatically. Many people perceived this as an inevitable result of growing demand for a fixed resource, and therefore predicted that prices would continue to rise. But the high prices for petroleum products caused a number of reactions over time. People began to use the resource more efficiently: auto-gas mileage

increased, and people began to insulate their homes more effectively. Exploration companies discovered new sources of oil and developed ways to pump more of the oil out of the ground. Alternative energy sources—nuclear, solar, and wind—grew. As a result of these reactions, prices of oil and gas did not continue to rise.

Economics and the World Food Problem

How do these economic insights apply to the problem of worldwide undernutrition? What is the “optimal” nutrition policy? What kinds of government programs can be used to achieve the objective of reducing undernutrition?

Optimal Policy to Reduce Undernutrition

The benefits of reducing undernutrition are obvious: lives saved, health improved, productivity increased. For an individual case, the costs of achieving adequate nutrition are remarkably low. In countries with an average calorie deficit (see Table 6.5 for a partial list), an additional 250 calories per person per day would erase the deficit. (Though derived in a different way, this is consistent with the FAO's estimates of average calorie deficits among people who are undernourished, ranging from about 100 to 500 calories per person per day; see FAO 2000a, *State of Food Insecurity in the World*.) Two hundred fifty calories is about the equivalent of a peanut butter sandwich (two slices of bread and two tablespoons of peanut butter is 370 calories). The cost of a peanut butter sandwich is about 35 cents. If you put \$5,000 into a bank account paying 2 percent annual interest, you could withdraw 35 cents a day from that account for seventy-five years. Thus, we can conclude that there are a substantial number of people whose lives could be saved at a cost of \$5,000. Compare this to an estimated “value of human life” of \$150,000 to \$360,000 found in a study of Indian manufacturing workers (Simon et al. 1999).

Or compare this \$5,000 figure to the estimated costs of saving a life implicit in policy choices made in the United States, shown in Table 16.1. Saving lives by means of improved nutrition is an incredible bargain. Economic analysis here serves only to raise the question: If the benefit-cost ratio is so favorable, why haven't policymakers leapt to make the investments necessary to substantially eliminate undernutrition?

There are a couple of possible answers. The first has to do with targeting. The peanut butter sandwich calculation assumes that the sandwich actually gets eaten by a person who is undernourished. But in reality, food donations are sometimes diverted to people who are not undernourished. A January 2004 report on the situation in North Korea states:

Table 16.1 Dollar Costs per Life Saved of Various Regulations in the United States

Government Action	Cost per Life Saved
Requiring seat belts and air bags in cars	\$100,000
Banning flammable sleepwear for children	\$1,200,000
Requiring seat belts in rear seats of cars	\$3,800,000
Restricting arsenic emissions from glass-manufacturing plants*	\$40,200,000
Banning asbestos	\$329,000,000

Sources: Viscusi and Gayer 2002; Viscusi 1993.

The current food crisis is a result of foreign donors refusing to contribute food for North Korea because the government has not allowed foreigners to observe where the donated food goes. Other witnesses have consistently reported that the donated food goes to the armed forces and is not sent to areas where there has been unrest, or where the government suspects there might be unrest (because a number of locals have fled to China or Russia). . . . New supplies will not arrive for several months. But after that, the food aid could dry up again if the North Korean government does not become more cooperative. (Strategy Page 2004)

It is natural to want to avoid being “conned”—tricked into making charitable donations to people who do not deserve our charity. From an economic standpoint, however, even if only one in ten of the donations hits its mark, the program would still be more cost-effective than any of the policy steps listed in Table 16.1. A more cynical answer is that the people who are dying from lack of seatbelts or from asbestos are “like us” and therefore it is worth the high cost to save those lives. We can empathize with the people who would die in the absence of the government policy, but we imagine that the people who are dying from undernutrition are “not like us”—we cannot imagine being that poor, therefore our empathy is low. Subramanian and Cropper (1995) cite other unfunded programs that would save lives at a low cost.

Finally, the \$5,000 figure is the cost of saving a single life, without taking into account any impacts on market prices that would occur if the policy were aimed at reducing undernutrition among many of the 800 million suffering from it. As subsequent chapters will explain, a large-scale program would increase food prices and the environmental costs associated with increased food production.

Policy Instruments to Reduce Undernutrition

Economic analysis has a lot more to contribute to the question: What kinds of policy actions can contribute to reduced undernutrition? Most of the rest of the book is devoted to some answers to this question. The supply-demand framework helps organize the discussion.

Chapter 7 emphasized the two elements of the food security equation—*income and price*. For the most part, our policy discussion can be broken down into policies that influence income and policies that influence price.

Policies to raise incomes of the poor. Chapter 17 will discuss policies that raise the incomes of the poor. There are two possibilities: redistributing income from rich to poor, or improving the rate of economic growth.

The main economic rationale for redistributing income from the rich to the poor is the belief in the declining marginal utility of income. We discussed previously the principle that as food consumption increases, unit by unit, declining marginal benefits accrue from adding an additional unit. Many economists accept the hypothesis that this principle can be extended to cover the consumption of all goods taken together.

A direct implication of this is that a dollar is worth more to a poor person than to a rich person. On the one hand, the idea is that a couple of more dollars in the hands of a poor person will be spent on “necessities”—items that are fundamental to life. On the other hand, taking a couple of dollars away from a rich person will cause that person to consume fewer frivolous things. The research relating income to happiness (see Box 9.2) is consistent with this hypothesis. A 10 percent increase in income has the same impact on happiness regardless of the income level, so taking \$1,000 from a person making \$100,000 (reducing their income by 1 percent) and giving that \$1,000 to a person making \$10,000 (increasing their income by 10 percent) will increase the poor person’s happiness more than it decreases the rich person’s happiness. Therefore, this transfer from rich to poor increases the “common good.” This may explain why governments are motivated to adopt programs that have the effect of redistributing wealth from the rich to the poor.

The practical problem is that the “declining marginal utility of income” hypothesis implies that the appropriate policy is total and complete equality of income distribution. If one person in the country (or the world) earns slightly more than another, then money should be taken from the former and given to the latter. Most people reject this policy prescription. That rejection raises questions about whether this is the true explanation for policy concern about the poor and hungry.

There is much literature on the subject of what kinds of policies may promote general economic growth. We will provide a general overview in Chapter 17, which addresses the issue of “globalization” and whether integration into the global economy can be beneficial to growth rates in developing countries.

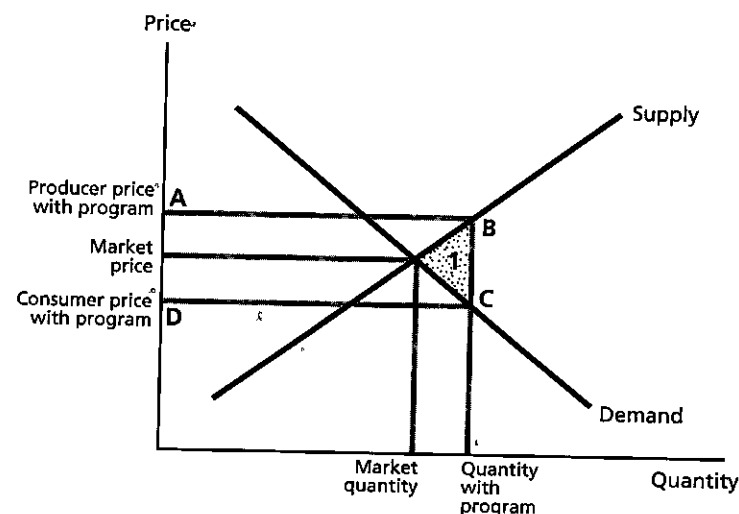
Policies to reduce the price of food. Chapters 18–22 will consider a variety of policies that reduce the price of food. Chapter 18 discusses population control. If population growth can be reduced, the demand for food will not increase as quickly, food supplies per capita will increase, and food prices will decrease.

Chapters 19–22 consider policies that target food prices more directly. These policies can be thought to operate in one of two ways: they can distort the social equilibrium and cause a reduction in economic efficiency, or they can correct a distortion and increase economic efficiency.

If the aggregate supply-and-demand curves represent the true social costs and benefits, then policies that alter the equilibrium price are “distortionary”—they reduce economic efficiency. This is illustrated in Figure 16.1, which shows how a government policy can create a wedge between the price that consumers pay and the price that farmers receive. Perhaps the program is one that sells food to consumers at below-cost, or perhaps the program pays subsidies to farmers, or perhaps the subsidy is paid to firms in the processing or marketing sector. In any case, the price received by farmers is higher than the price paid by consumers (the difference between the price at point A and the price at point D in the figure).

This type of policy achieves the direct objective we are looking for here: quantity increases (from the “market quantity” to the “quantity with the program” in the figure). But the policy reduces economic efficiency. As the quantity produced increases above the market quantity, the cost of producing an additional unit exceeds the value that consumers get from consuming the additional unit. The quantity of this efficiency cost is shown as the shaded triangle in Figure 16.1. Subsidies also have a direct cost paid by the government. This is the amount paid per unit (producer price minus consumer price), times the number of units. This cost is shown as rectangle ABCD in the figure.

Figure 16.1 Impact of a Policy That Subsidizes Production or Consumption



But policies that change prices can sometimes be seen as "corrective." For example, as discussed, there is the possibility that production or consumption of a good might create external benefits that are not reflected in the market supply-and-demand curves. In this case, the market equilibrium quantity will be lower than the optimum, and a government policy to subsidize consumption or production may correct the situation.

Economist Arnold Harberger (1983) suggested that we all (or at least many of us) suffer when any person in the world (or country or ethnic group or family) suffers from undernutrition or failure to meet "basic needs." When a hungry person is fed, a direct benefit goes to that person (which benefit is reflected in the market transaction), but also an indirect benefit goes to us, because we care about human suffering. This indirect benefit is external to the market. Because such a reduction affects our happiness, we would be willing to pay to see the incidence of hunger reduced or eliminated. The reduction of hunger is a good: the more it happens, the better we feel. But there is no market on which we can purchase this good. This is a case of missing markets, or *externalities*. Private action is unlikely to solve this problem. Because we know others also care, we may wait for *them* to take actions to reduce hunger, in which case *we* get the good (reduced world hunger) free of charge. Government action may be justified in creating an artificial market by collecting money from each of us who derives satisfaction from reductions in hunger, and using that money to reduce hunger.

Chapter 21 will examine another kind of corrective action: removing distortive policies that actually *reduce* food output and consumption. Chapter 22 will discuss policies that cause the aggregate supply to increase, thereby increasing output and reducing price. These policies include investments in research and development, to offset underinvestment in this sector by private markets. They also include government interventions to correct market failures through the provision of loans to farmers.

Policies That Raise the Incomes of the Poor

The world's hungry are hungry because they are poor. They cannot afford enough food to provide their basic needs. Policies to alleviate their poverty fall into two categories: policies that promote general economic growth and policies that redistribute income or wealth from rich to poor.

Promoting Economic Growth

There is no doubt that broad-based economic growth is one of the most effective antipoverty programs (Dollar and Kraay 2002). Economic growth creates jobs and raises the incomes of the poor. Figure 9.1 provided some evidence of the benefits of economic growth. To a limited degree, government projects can contribute directly to economic growth; but in general governments do not create jobs very efficiently. Developing countries must rely on growth in the private sector for their economic prosperity.

The history of the past four decades frames the debate over what kinds of policies best promote economic growth. A couple of things are obvious:

- *Economic growth is possible.* For example, per capita income in Taiwan grew from \$1,256 in 1960 to \$12,181 in 1998 (in constant, or "inflation-adjusted" dollars). South Korean per capita income grew from \$904 to \$9,454 over the same period. Of a comprehensive sample of fifty-eight countries with low incomes (per capita incomes of less than \$1,500) in 1960, per capita incomes doubled in twenty of them.

- *Economic growth is not inevitable.* In these fifty-eight low-income countries, per capita incomes declined in twelve countries, and grew by less than 1 percent per year in nineteen others. Per capita income in the Democratic Republic of Congo fell from \$489 in 1960 to \$197 in 1998. Per capita income in Madagascar fell from \$1,191 in 1960 (above the South Korean level) to \$581 in 1998 (about 5 percent of the South Korean level).